PATENT ABSTRACTS OF JAPAN

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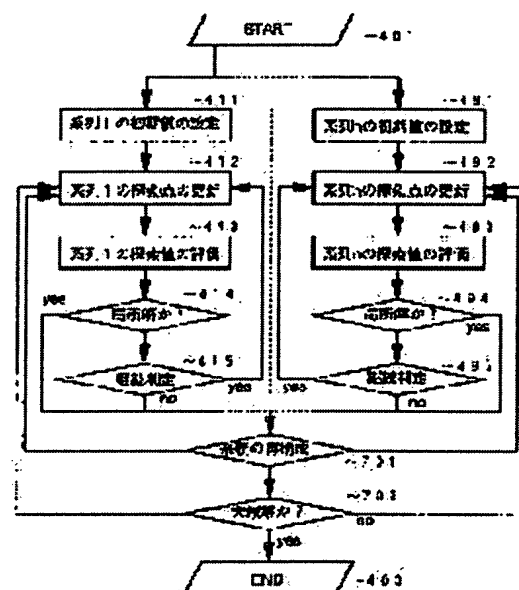   UMINAGA MASAHIRO

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(54) NONLINEAR OPTIMIZATION PARALLEL PROCESSING METHOD

(57)Abstract:

PURPOSE: To provide a method for efficiently solving the optimization problem of a multi-peak nonlinear function that appears frequently in the learning of a neural network, etc.

CONSTITUTION: Each processor performs a phase 1 for the initial value setting (411) of a search system, search point update (412), search value evaluation (413) at the search point, a judgement (414) on whether or not the search value is a local solution, and a judgement (415) on whether or not a return to the search point update (412) is made when the judged result is negative, and a phase 2 consisting of a process (701) wherein pairs of processors to be compared are selected when local solutions are obtained by all the processors of the phase 1 are obtained to make superiority/ inferiority comparisons of the local solutions, a new search point of the search system obtaining an inferior local solution is set, and a return to the phase 1 of relative processors is made and a process (702) wherein the local solutions are all compared unless there is the inferior local solution, the local solutions are outputted as a large-range optimum solution when they are all coincident with each other, and new search points of respective search systems obtaining the local solutions are set when they are not all coincident with each other to make a return to the phase 1 of relative processors.

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